

REMARKS

The above amendments have been made to place the application in a more traditional format.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned **"Version With Markings To Show Changes Made."**

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

3. (Amended) A mutant of the enzyme of claim 1 [or 2], which is inactive but retains binding capacity to a ligand molecule to PHEX.

12. (Amended) A method for producing a soluble PHEX enzyme or an inactive mutant thereof, which comprises the steps of:

-allowing the eukaryotic host of claim 10 [or 11] to express said nucleic acid, and

-recovering the soluble PHEX enzyme or mutant thereof as a secretion product of said host.

13. (Amended) An antigenic composition, which comprises the enzyme of [any one of claims 1 to 6] claim 1.

14. (Amended) An antibody capable of binding to PHEX and raised against the enzyme of [any one of claims 1 to 6] claim 1 or fragment thereof.

19. (Amended) A hybridoma producing the antibody of [any one of claims 16 to 18] claim 16.

20. (Amended) A composition comprising the enzyme of claim 1 [or 2] or the nucleic acid [of claim 7] as defined above and a pharmaceutically acceptable carrier.

21. (Amended) A composition comprising the enzyme of [any one of claims 3 to 6] claim 3 and a pharmaceutically acceptable carrier.

22. (Amended) A composition comprising the antibody of [any one of claims 14 to 18] claim 14 and a pharmaceutically acceptable carrier.

23. (Amended) A diagnostic reagent for detecting the presence or amount of PHEX, comprising the antibody of [any one of claims 14 to 180] claim 14.

24. (Amended) A diagnostic kit for detecting the presence or amount of PHEX comprising the antibody of [any one of claims 14 to 18] claim 14.

26. (Amended) A method for detecting the presence or an amount of PHEX in a sample, which comprises the steps of:

- contacting said sample with the antibody of [any of any one of claims 14 to 18] claim 14 in conditions such that the immune complex can form; and
- detecting the immune complexes as an indication of the presence or amount of PHEX in said sample.

27. (Amended) A device for purifying PHEX or a mutant thereof which comprises the antibody of [any one of claims 14 to 18] claim 14.

28. (Amended) A device for screening PHEX ligands, which comprises the soluble PHEX enzyme or a mutant thereof as defined in [any one of claims 1 to 6] claim 1.

33. (Amended) A method for obtaining a PHEX ligand which [comprising] comprises the steps of:

- contacting a sample containing one or more molecules with a PHEX enzyme or mutant as defined in [any one of claims 1 to 6] claim 1 in conditions such that binding of said one or more molecules with PHEX can occur;
- detecting said binding as an indication of the presence of a PHEX ligand in said sample; and
- selecting said PHEX ligand.

37. (Amended) A method for evaluating PHEX activity in a sample which comprises the steps of contacting the sample with a substrate as defined in claim 35 [or 36], or preferably with PTHrPI07-139, in substantially phosphate-free conditions and observing the apparition of a cleavage product of said substrate or PTHrP107-139 as an indication of PHEX activity in the sample.

39. (Amended) A method for evaluating the activity of a molecule for its capacity of being an inhibitor of PHEX comprising the steps of:

contacting said molecule with a substrate as defined in claim 35 [or 36], or preferably with PTHrPIO7-1 39, and the PHEX enzyme of claim I in substantially phosphate-free conditions; and

observing an inhibition of the formation of a cleavage product as an indication that said molecule is a PHEX inhibitor.

40. (Amended) A kit for executing the method of [any one of claims 35 to 39] claim 35.

Pub. No. 550343